# Herpes Simplex Virus Presenting as an Oropharyngeal Mass

*Evgeniya Molotkova, BS;[1] Anna C. Buhle, MD;[1] Patrick S. Rush, DO[2,3]; James E. McLean, MD;[4] Patrick S. Carpenter, MD[5]*

*1. Virginia Tech Carilion School of Medicine, Roanoke, VA.*
*2. Department of Basic Science Education, Virginia Tech Carilion School of Medicine, Roanoke, VA.*
*3. Division of Dermatology, Dept. of Internal Medicine, Virginia Tech Carilion School of Medicine, Roanoke, VA.*
*4. Department of Otolaryngology, Naval Medical Center Portsmouth, Portsmouth, VA.*
*5. Department of Surgery, Otolaryngology/Head and Neck Surgery Section, Virginia Tech Carilion School of Medicine, Roanoke, VA.*

## Introduction

Herpes simplex virus (HSV) infection is a rare cause of supraglottitis, a serious condition characterized by inflammation of laryngeal structures. Presentation is variable, and can manifest as inflammation, ulceration, and rarely, a mass resembling a neoplasm.

## Case Description

A 74-year-old immunocompetent male was transferred from an outside hospital due to gross hemoptysis and impending airway compromise. He had a three-day history of hemoptysis, dysphagia, and dyspnea. Bedside fiberoptic exam revealed near complete airway obstruction from a bleeding, friable mass involving much of the left supraglottic structures (Fig 1). He was moved to the OR for emergent awake tracheotomy and airway stabilization. Biopsy revealed necrosis and inflammation with scattered atypical squamous cells but was negative for malignancy. CT scan demonstrated diffuse mucosal thickening of the oropharynx (Fig 2A). Piperacillin-tazobactam and vancomycin was started empirically due to concern for bacterial supraglottitis. Labs and tissue stains were negative for fungus, human immunodeficiency virus (HIV), and syphilis; white blood cell count was normal at 7.8 K/μL. Oropharyngeal cultures grew *F. necrophorum.* On post-operative day 3, direct laryngoscopy revealed persistence of the supraglottic mass but with improved appearance of the oropharynx. Repeat biopsies were consistent with prior. Repeat direct laryngoscopy on POD 8 demonstrated further improved appearance of the involved structures; biopsy samples were consistent with prior findings, but now with characteristic histologic findings of HSV infection, confirmed by PCR/IHC. He was discharged on POD 11 on a three-week course of amoxicillin-clavulanate and acyclovir. CT scan on POD 15 showed improvement in airway patency (Fig 2B). He was decannulated on POD 18, and the ulcerative mass completely resolved by his 1 month follow–up (Fig 3).

## Figures

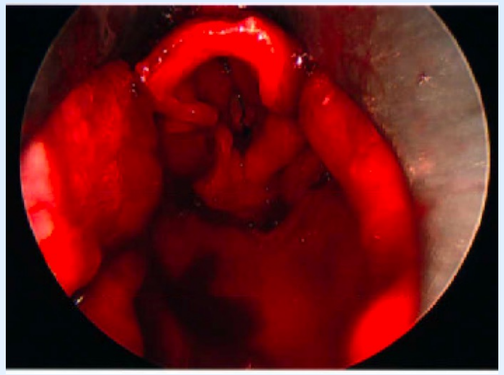

Figure 1: Direct laryngoscopy showing diffuse edema involving the epiglottis, cricoid, arytenoids, and base of tongue with necrosis of the left arytenoid and aryepiglottic fold. Fungating mass of the hypopharynx in view (POD 0)

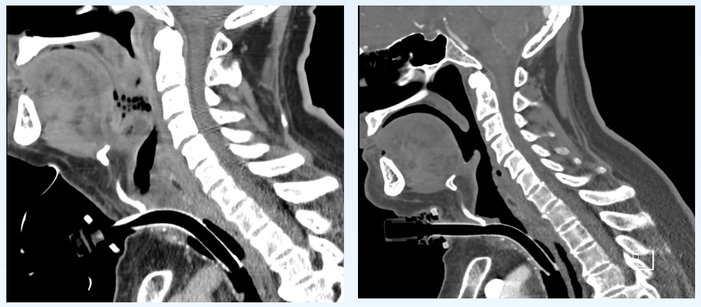

Figure 2: (A) Computed tomography scan of the neck with intravenous contrast in the sagittal plane on POD 0 showing irregular, diffuse mucosal thickening extending from the nasopharynx to the hypopharynx and supraglottic larynx causing a near complete airway obstruction. (B) Repeat CT of the neck with contrast in the sagittal plane on POD 15. Previously seen irregular thickening has decreased considerably and airway effacement has resolved.

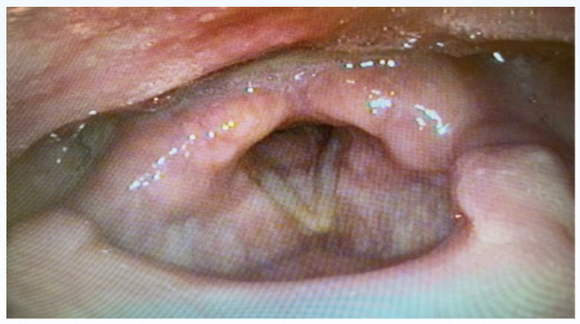

Figure 3: Complete resolution of the mass at one month follow-up

## Discussion

- Etiology of supraglottitis is varied, and can include infection, trauma, chemical irritation, and immunological disease. HSV is a rare cause of viral infectious supraglottitis. In these cases, the presentation is variable, and can mimic bacterial supraglottitis or a neoplasm.
- When compared to all-cause supraglottitis in adults, HSV supraglottitis is more likely to cause severe airway compromise, with 37% of patients requiring airway intervention compared to 15%.
- HSV supraglottitis with superimposed bacterial infection is exceedingly rare. It is hard to determine whether inflammation from viral epithelial damage predisposes the supraglottic complex to bacterial infection or vice versa. Superinfection tends to cause substantial local inflammation in the laryngopharynx, thus increasing the speed of disease progression and severity of airway obstruction. In fact, these more severe cases of supraglottitis typically demonstrate a short symptom duration prior to evaluation and severe disease at presentation, often requiring emergent airway intervention.
- This may occur without the typical signs of systemic infection such as fever or leukocytosis. As bacterial infections are often a primary cause of supraglottitis, the finding of a bacterial superinfection may complicate the diagnosis of HSV supraglottitis and delay proper treatment.

## References

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